dicimus. Si igitur, ex. gr., per diversas operationes cognoverim primo, qualis sit habitudo inter magnitudines A et B, deinde inter B et C, tum inter C et D, ac denique
[388] inter D et E: non idcirco video qualis sit inter | A et E, nec possum intelligere praecise ex jam cognitis, nisi omnium recorder. Quamobrem illas continuo quodam cogitationis motu[80] singula intuentis simul et ad alia transeuntis aliquoties percurram, donec a prima ad ultimam tam celeriter transire didicerim, ut fere nullas memoriae partes relinquendo, rem totam simul videar intueri; hoc enim pacto, dum memoriae subvenitur, ingenii etiam tarditas emendatur, ejusque capacitas quadam ratione extenditur.

2. Addimus autem, nullibi interruptum debere esse hunc motum; frequenter enim illi, qui nimis celeriter et ex remotis principiis aliquid deducere conantur, non omnem conclusionum intermediarum catenationem tam accurate percurrunt, quin multa inconsiderate transiliant. At certe, ubi vel minimum quid est praetermissum, statim catena rupta est, et tota conclusionis labitur certitudo.

3. Hic praeterea enumerationem requiri dicimus ad scientiae complementum: quoniam alia praecepta juvant quidem ad plurimas quaestiones resolvendas, sed solius enumerationis auxilio fieri potest, ut ad quamcumque animum applicemus, de illa semper feramus judicium verum et certum, ac proinde nihil nos plane effugiat, sed de cunctis aliquid scire videamur.

4. Est igitur haec[81] enumeratio, sive inductio, eorum omnium, quae ad propositam aliquam quaestionem spectant, tam diligens et accurata perquisitio, ut ex illa certo evidenterque concludamus, nihil a nobis perperam fuisse praetermissum: adeo ut, quoties
[389] illa fuerimus | usi, si res petita nos lateat, saltem in hoc simus doctiores, quod certo percipiamus, illam nulla via a nobis cognita potuisse inveniri; et si forte, ut saepe continget, vias omnes, quae ad illam hominibus patent, potuerimus perlustrare, liceat audacter asserere, supra omnem humani ingenii captum positam esse ejus cognitionem.

5. Notandum praeterea, per sufficientem enumerationem sive inductionem, nos illam tantum intelligere, ex qua veritas certius concluditur, quam per omne aliud probandi genus praeter simplicem intuitum; ad quem quoties aliqua cognitio non

[80] C: cogitationis motu. H, A, AT, and SGZ: imaginationis motu. N: beweeging van denking. Cf. R. 3, § 8, R. 7, R. 7, § 1, R. 11, R. 11, §§ 3–4, and R. 16, § 1. Hence a reference to the 'motus imaginationis' would be unique and therefore improbable.

[81] AT and SGZ: haec. A, H, and C: hic.

Материал, защищенный авторским правом

memory.[117] Therefore, for example, if, by means of different operations, I have come to know, first, what the relation between the magnitudes A and B is, and, then, between B and C, and, next, between C and D, and, finally, between D and E, then I do not, without further ado, see what the relation is between A and E, nor can I understand what that relation is just from those relations already known, unless I recall all of them. For this reason, I shall run through these relations several times, in a certain continuous movement of thought, simultaneously intuiting individual ones and passing on to the others, until I have learned to pass from the first to the last so swiftly that, leaving room for almost no functions of the memory,[118] I seem to intuit the whole thing at once.[119] For, in that the memory is relieved in this fashion, the sluggishness of the natural intelligence is also emended, and, in a certain manner, the capacity of this intelligence is extended.[120]

2. We add, however, that this movement must nowhere be interrupted. For those who attempt to deduce something too swiftly and from remote principles frequently do not run through the entire chain of intermediate inferences very accurately, so that they pass over many things without due consideration. But, whenever even the smallest thing is overlooked, surely the chain is immediately broken and the entire certainty of the conclusion collapses.

3. Here we are saying, furthermore, that enumeration is required for the completion of knowledge. For, to be sure, the other precepts do help to resolve most questions; none the less, only with the aid of enumeration are we always able to make a true and certain judgment about whatever question it is to which we may be applying the mind, and only with the aid of enumeration, therefore, does nothing completely escape us, but rather are we seen to know something about all things together.

4. This enumeration, or induction, is, therefore, a thorough inquiry into all those things which relate to some proposed question, a thorough inquiry so careful and so accurate that we may certainly and evidently conclude from it that we have not inadvertently overlooked anything: so much so, that, whenever we have made use of it, even though the thing sought eludes us, we are more learned – in the respect, at least, that we perceive with certainty that it could not have been discovered by any path known to us. If we have perhaps been able to survey all the paths to the thing sought which are accessible to human beings, as often happens, then one may boldly assert[121] that knowledge of it lies completely beyond the grasp of human natural intelligence.

5. One has to note, moreover, that by 'sufficient enumeration' or 'induction' we mean just that enumeration or induction from which the truth is concluded more certainly than from any other kind of proof except simple intuition. Whenever some

[117] The 'infirmitas memoriae' is a constantly recurring theme in the *Rules*. Cf. R. 3, § 8, R. 4, § 6, and R. 11, § 4. For a critical analysis of the view that memory records things like a kind of 'videotape', albeit in a context rather different from any that Descartes might have in mind, see Frederick Crews (and his critics), *The Memory Wars: Freud's Legacy in Dispute* (New York, 1995), passim. According to empirical investigations, 'memory is inherently sketchy, reconstructive, and unlocalizable' (ibid., p. 164). It also 'decays drastically over time' (ibid.) and 'is easily corrupted' (ibid., p. 165).

[118] In R. 16, § 1, the main aim is also to reduce the importance of the role of the memory.

[119] Cf. the strikingly similar formulation in R. 11, § 4.

[120] Cf., once again, the strikingly similar formulation in R. 11, § 5.

[121] The Latin is: '… liceat audacter asserere …'. Cf. R. 12, § 24 (and R. 8, §§ 5 and 11).

Материал, защищенный авторским правом

potest reduci, omnibus syllogismorum vinculis rejectis, superest nobis unica haec via, cui totam fidem debeamus adhibere. Nam quaecumque una ex aliis immediate deduximus, si illatio fuerit evidens, illa ad verum intuitum jam sunt reducta. Si autem ex multis et disjunctis unum quid inferamus, saepe intellectus nostri capacitas non est tanta, ut illa omnia possit unico intuitu complecti; quo casu illi hujus operationis certitudo debet sufficere. Quemadmodum non possumus uno oculorum intuitu longioris alicujus catenae omnes annulos distinguere; sed nihilominus, si singulorum cum proximis connexionem viderimus, hoc sufficiet, ut dicamus etiam nos aspexisse, quomodo ultimum cum primo connectatur.

6. Sufficientem hanc operationem esse debere dixi, quia saepe defectiva esse potest, et per consequens errori obnoxia. Interdum enim, etiamsi multa quidem enumeratione
[390] perlustremus, quae valde[82] evidentia sunt, si | tamen vel minimum quid omittamus, catena rupta est, et tota conclusionis labitur certitudo. Interdum etiam omnia certe enumeratione[83] complectimur, sed non singula inter se distinguimus, adeo ut omnia confuse tantum cognoscamus.

7. Porro interdum enumeratio haec esse debet completa, interdum distincta, quandoque neutro est opus; ideoque dictum tantum est, illam esse debere sufficientem. Nam si velim probare per enumerationem, quot genera entium sint corporea, sive aliquo pacto sub sensum cadant, non asseram illa tot esse, et non plura, nisi prius certo noverim, me omnia enumeratione fuisse complexum, et singula ab invicem distinxisse. Si vero eadem via ostendere velim, animam rationalem non esse corpoream, non opus erit enumerationem esse completam, sed sufficiet, si omnia simul corpora aliquot collectionibus ita complectar, ut animam rationalem ad nullam ex his referri posse demonstrem. Si denique per enumerationem velim ostendere, circuli aream esse majorem omnibus areis aliarum figurarum, quarum peripheria sit aequalis, non opus est omnes figuras recensere, sed sufficiet[84] de quibusdam in particulari hoc demonstrare, ut per inductionem idem etiam de aliis omnibus concludatur.

8. Addidi etiam, enumerationem debere esse ordinatam: tum[85] quia ad jam enumeratos defectus nullum praesentius remedium est, quam si ordine omnia perscrutemur;
[391] tum etiam, quia saepe contingit ut, si singula, | quae ad rem propositam spectant, essent separatim perlustranda, nullius hominis vita sufficeret, sive quia nimis multa sunt, sive

[82] A, AT, C, and SGZ: valde. Missing in H. N: zeer.
[83] A, AT, C, and SGZ: certe enumeratione. H: certe enumerationes. L: certa enumeratione.
[84] H, C, and SGZ: sufficiet. A and AT: sufficit.
[85] A, AT, C, and SGZ: tum quia ad … singula, quae. Missing in H, which reads: tum quiae. This is crossed out in L, which reads: [nam si quae].

Материал, защищенный авторским правом

knowledge cannot be reduced to a simple intuition, there is left to us, who have cast off all the chains[122] of the syllogisms,[123] this one path, to which we should stick with complete confidence. For, whatever individual things we have immediately deduced from others, if the inference was evident, then these things have already been reduced to a true intuition. But, if we infer some one thing from many and disconnected ones, then the capacity of our intellect is often not so great that it could encompass them all in a single intuition. In this case, the certainty of this operation should suffice. In this manner, we cannot, in one ocular intuition, distinguish all the links of a very long chain; but, never the less, if we have seen the connections between the individual ones and their neighbors, then this will suffice in order that we may say that we have also seen how the last link is connected with the first.[124]

6. I have said that this operation should be 'sufficient', because it can often be deficient, and, as a consequence, liable to error. For in an enumeration it sometimes happens that, even though, to be sure, we do survey many things which are very evident, none the less, if we omit even the slightest thing, then the chain is broken and the entire certainty of the conclusion is lost. Also, sometimes we do, to be sure, encompass everything in an enumeration; we do not, none the less, distinguish individual things from one another, so much so, that we know all things only confusedly.

7. This enumeration should, furthermore, be sometimes complete and sometimes distinct, while, at other times, it need be neither of the two. For this reason, it has been said only that the enumeration should be sufficient. For, if I want to prove, through enumeration, how many kinds of entities are corporeal, or how many are, in some way, available to the senses, then I may not assert that there are so many and no more, unless I have previously made sure that I had encompassed all of them in the enumeration and that I had distinguished the ones from the others. On the other hand, if I want to show, in the same way, that the rational soul is not corporeal, then there will be no need for the enumeration to be complete, but rather will it suffice if I group all bodies together into a certain number of classes in such a way that I demonstrate that the rational soul cannot be referred to any of them.[125] Finally, if I want to show, through enumeration, that the area of a circle is greater than the areas of all other figures whose perimeters are equal to that of a circle, then there is no need to review all the figures, but rather will it suffice to demonstrate this for some figures in particular, in order that one may conclude, through induction,[126] the same of all the others too.

8. I have also added that the enumeration should be ordered, partly because there is no more effective remedy for the defects already enumerated than for us to scrutinize all things in an orderly manner, and partly because it often happens that, if every single thing relevant to the matter proposed were to be surveyed separately, then no human lifetime would suffice for doing so, either because there are too many things, or

[122] On 'chains' (*vincula*) cf. R. 2, § 4, and R. 10, § 4.
[123] Cf. R. 2, § 3, R. 10, § 5, R. 13, § 1, and R. 14, § 2.
[124] Is unmediated deduction – intuition? Is mediated deduction – induction? Cf. R. 11, § 2.
[125] Cf. R. 12, § 14.
[126] The term 'induction' was first used in R. 7, § 4, and then employed in that and the following paragraph interchangeably with 'enumeration'. Here, on the other hand, 'induction' appears to assume the now standard sense of 'inference from particular instances of something to all instances of it'.

Материал, защищенный авторским правом

quia saepius eadem occurrerent repetenda. Sed si omnia illa optimo ordine disponamus, ut plurimum, ad certas classes reducentur, ex quibus vel unicam exacte videre sufficiet, vel ex singulis aliquid, vel quasdam potius quam caeteras, vel saltem nihil unquam bis frustra percurremus; quod adeo juvat, ut saepe multa propter ordinem bene institutum brevi tempore et facili negotio peragantur, quae prima fronte videbantur immensa.

9. Hic autem ordo rerum enumerandarum plerumque varius esse potest, atque ex uniuscujusque arbitrio dependet; ideoque ad illum[86] acutius excogitandum[87] meminisse oportet eorum, quae dicta sunt in quinta propositione. Permulta quoque sunt ex levioribus hominum artificiis, ad quae invenienda tota methodus in hoc ordine disponendo consistit: sic si optimum anagramma conficere velis ex litterarum alicujus nominis transpositione, non opus est a facilioribus ad difficiliora transire, nec absoluta a respectivis distinguere, neque enim ista hic habent locum; sed sufficiet, talem tibi[88] proponere ordinem ad transpositiones litterarum examinandas, ut nunquam bis eaedem percurrantur, et sit illarum numerus, ex. gr., in certas classes ita distributus, ut statim appareat, in quibusnam major sit spes inveniendi quod quaeritur; ita enim saepe non longus erit, sed
[392] tantum puerilis labor. |

10. Caeterum hae tres ultimae propositiones non sunt separandae, quia ad illas simul plerumque est reflectendum, et pariter omnes ad methodi perfectionem concurrunt; neque multum intererat, utra prior doceretur, paucisque easdem hic explicavimus,[89] quia nihil aliud fere in reliquo tractatu habemus faciendum, ubi exhibebimus in particulari quae hic in genere complexi sumus.

Regula VIII

De limitibus rationis humanae

Si in serie rerum quaerendarum aliquid occurrat, quod intellectus noster nequeat satis bene intueri, ibi sistendum est, neque caetera quae sequuntur examinanda sunt, sed a labore supervacuo est abstinendum.

1. Tres regulae praecedentes ordinem praecipiunt et explicant; haec autem ostendit, quandonam sit omnino necessarius, et quando utilis tantum. Quippe quidquid integrum gradum constituit in illa serie, per quam a respectivis ad absolutum quid, vel contra, veniendum est, illud necessario ante omnia quae sequuntur est examinandum. Si vero multa, ut saepe fit, ad eundem gradum pertineant, est quidem semper utile, illa omnia ordine perlustrare. Hunc tamen ita stricte et rigide non cogimur observare, et

[86] C and SGZ: illum. H, A, and AT: illud.
[87] H, A, AT, C, and SGZ: acutius excogitandum. Above this L adds but then crosses out: accuratius exequendum.
[88] AT and C: tibi. H, A, and SGZ: sibi. N: zich.
[89] AT, C, and SGZ: explicavimus. H and A: explicamus. N: zullen … verklaren.

Материал, защищенный авторским правом